

WHAT IS CLAIMED IS:

Sub 2 1 1. A network performance monitoring system comprising:
B3 2 a plurality of user modules, wherein each user module operates on a unique user machine
B3 3 coupled to one or more provider servers;
B3 4 an experience test server for collecting data from the plurality of user modules, wherein
B3 5 the collected data includes at least one performance datum relating to user
B3 6 experience with a link from the user machine to the provider server; and
B3 7 means for cleansing the collected data to account for variable user configurations.

Sub 2 1 2. The apparatus of claim 1, wherein the user machines are coupled to the
B3 2 provider servers over dial-up connections.

Sub 2 1 3. The apparatus of claim 2, further comprising a service level report
B3 2 generator, wherein a service level report generated by the service level report generator is a
B3 3 report indicating the level of service provided to the unique user machines and the level of
B3 4 service is based, at least in part, on the cleansed collected data.

Sub 2 1 4. The apparatus of claim 1, wherein the means for cleansing is a means for
B3 2 identifying when given data samples with disparate values represent similar samplings due to
B3 3 user configuration variations.

Sub 2 1 5. The apparatus of claim 4, wherein the data samples represent point-of-
B3 2 presence IDs and the disparate values result from user variations in representations of point-
B3 3 of-presence IDs.

Sub 2 1 6. The apparatus of claim 4, wherein the data samples are clock times and the
B3 2 disparate values result from user variations in local clocks.

Sub 2 1 7. The apparatus of claim 1, wherein the experience test server further
B3 2 comprises logic to allocate tests among the plurality of user modules.

Sub 2 1 8. The apparatus of claim 7, wherein the logic to allocate tests among the
B3 2 plurality of user modules is logic that operates without requiring prior knowledge of the
B3 3 number of user modules available for running tests.

Sub 2 1 9. The apparatus of claim 7, wherein the logic is logic programmed to
B3 2 allocate tests based on one or more criterion, wherein the one or more criterion are selected

Sb
B3
3
4

from a test type, matching test parameters, maximum number of tests, test durations and conditions under which test can be allocated.

1 10. A method of determining a path taken by packets between a source and
2 destination in a packet-switched network, the method comprising the steps of:

3 sending out a plurality of test packets, wherein at least two test packets of the plurality of
4 test packets have differing values for a time-to-live variable;
5 recording IP addresses to IP devices at which the test packets expired;
6 sending a recording test packet to each of the IP addresses obtained in the step of
7 recording, wherein a recording test packet is a test packet that causes an IP device to
8 record a path of the test packet; and
9 analyzing the returned results of the recording test packets to determine the path taken
10 from the packets between the source and the destination.

1 11. A method of measuring network performance in a distributed network
2 where performance responsibility is allocated among more than one entity, the method
3 comprising the steps of:

4 executing tests on the distributed network from a test point;
5 querying routers to determine router statistics; and
6 adjusting results of the executed tests based on the router statistics.

1 12. The method of claim 11, where the step of querying is a step of querying
2 a central console which in turn queries a router.

1 13. In a dial-up network, wherein a client computer connects to a server
2 computer over dial-up lines, a method of monitoring dial-up processes, comprising the steps
3 of:

4 capturing dial-up parameters at the client computer, wherein the dial-up parameters
5 represent inputs to a dial-in session;
6 upon activation of a dialer program on the client computer, hooking into the dialer
7 program to obtain dial-up progress data, wherein the dial-up progress data represents
8 user experience parameters.

1 14. The method of claim 13, wherein the step of hooking comprises a step of
2 intercepting function calls.

1 15. The method of claim 14, wherein the step of monitoring is done as a
2 background process.

1 16. A method of monitoring end-user experience of a plurality of users
2 operating a plurality of interfaces to a distributed network, wherein each of the plurality of
3 users is associated with an account on the distributed network and a service level and wherein
4 compliance with the service level of a user is determined, at least in part, from the monitored
5 end-user experience, the method comprising the steps of:

6 detecting when a user invokes connection code to connect a client system to the
7 distributed network;
8 when the user invokes the connection code, monitoring the connection code to obtain
9 user experience data about the connection process, wherein the user experience data
10 is data relating to the user's experience with the distributed network;
11 transmitting the data obtained from the connection process to an experience test server,
12 wherein the experience test server is a collector of user experience test server.

1 17. The method of claim 16, wherein the step of monitoring is done as a
2 background process.

1 18. A method of monitoring network-based services, comprising the steps of:
2 configuring client modules to contact an experience test server;
3 when a client module contacts the experience test server, allocating one or more network
4 tests to the client module from the experience test server;
5 performing the one or more network tests using the client module; and
6 providing the test results to the experience test server from the client module.

1 19. The method of claim 18, further comprising a step of allocating tests to
2 distribute tests over time and distribute tests over available clients.

Sub →
B5 1 20. The method of claim 18, further comprising a step of checking test quota
2 limits associated with a client before instructing the client to run a test.

1 21. The method of claim 18, further comprising a step of dynamically
2 controlling a rate of test allocation to distribute tests over a test period based on a current test
3 rate.

Sub 1
B5 2
3

22. The method of claim 18, further comprising a step of dynamically changing test allocation without prior knowledge of number of client modules available for testing.

Add A1 >
~~Add C4~~ > ~~Add B5~~
ADD B6 >